

L21: Entry 72 of 83

File: DWPI

Feb 14, 1984

DERWENT-ACC-NO: 1984-072522

DERWENT-WEEK: 198412

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TITLE: Liq. epoxy! resins compsn. for sealing semiconductors - comprises liq. epoxy! resin, acid anhydride, filler, silane and silane coupling agent

PATENT-ASSIGNEE:

ASSIGNEE

MITSUBISHI ELECTRIC CORP

CODE

MITQ

PRIORITY-DATA: 1982JP-0137658 (August 5, 1982)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 59027945 A	February 14, 1984	N/A	008	N/A
JP 87040368 B	August 27, 1987	N/A	000	N/A

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP59027945A	August 5, 1982	1982JP-0137658	N/A

INT-CL (IPC): C08G 59/18; C08K 5/54; C08K 9/06; C08L 63/00; H01B 3/40; H01B 83/04

ABSTRACTED-PUB-NO: JP59027945A

BASIC-ABSTRACT:

Compsn. (I) consists of a liq. epoxy resin (II), an acid anhydride (III), an inorganic filler (IV), a silane cpd. (V) and a silane coupling agent (VI). (I) is made by adding a (IV) surface-treated with at least one cpd. (V) to a mixt. of (VI), (II) and (III).

(V) has the formula  $\text{RSi(OR)}_3$  (VII),  $\text{RR'Si(OR)}_2$  (VIII) or  $\text{O}^9\text{R''Si(OR)}_1$  (IX) (where R, R' and R'' are 1-6C alkyl or phenyl; R1 is H or 1-5C alkyl). (VI) has the formula  $\text{YSi(OR)}_2$  (X) (where Y is a monovalent organic gp. having an oxysilane ring; R2 is 1-5C alkyl). (III) is methyltetrahydrophthalic anhydride and/or methylhexahydrophthalic anhydride. (V) and (VI) may be mixed in a (V)/(VI) wt. ratio of 0.3-10:1 and the mixt. may be blended in an amt. of 0.15-2.0 wt.% to (IV).

(V) is e.g. methyltrimethoxysilane, dimethyldimethoxysilane, trimethylethoxysilane, hexyltrimethoxysilane, phenyltriethoxysilane, triphenylmethoxysilane or triphenylsilanol. (VI) is e.g. gammaglycidoxypropyl trimethoxysilane or beta-(3,4-epoxycyclohexyl) ethyltrimethoxysilane. (IV) is e.g. crystalline silica powder, glass fibre or alumina. (II) is e.g. liq. bisphenol A type epoxy resin.

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS: LIQUID POLYEPOXIDE RESIN COMPOSITION SEAL SEMICONDUCTOR COMPRISE LIQUID POLYEPOXIDE RESIN ACID ANHYDRIDE FILL SILANE SILANE COUPLE AGENT

DERWENT-CLASS: A21 A85 L03 U11 X12

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File: JPAB

Feb 14, 1984

PUB-NO: JP359027945A

DOCUMENT-IDENTIFIER: JP 59027945 A

TITLE: LIQUID EPOXY RESIN COMPOSITION FOR SEALING SEMICONDUCTOR

PUBN-DATE: February 14, 1984

INVENTOR-INFORMATION:

NAME

COUNTRY

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ASSIGNEE-INFORMATION:

NAME

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MITSUBISHI ELECTRIC CORP

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APPL-NO: JP57137658

APPL-DATE: August 5, 1982

US-CL-CURRENT: 524/786

INT-CL (IPC): C08L 63/00; H01B 3/40

ABSTRACT:

PURPOSE: To provide the titled compsn. having excellent moisture resistance and chemical bondability, by blending an inorg. filler having a surface treated with a silane compd., with a mixture consisting of a liquid epoxy resin, an acid anhydride and a silane coupling agent.

CONSTITUTION: The surface of an inorg. filler (E) such as crustalline silica powder is treated with a silane compd. (D) of formula II, III or IV (wherein R, R', R" are each a 1~6C alkyl, phenyl; R1 is H, a 1~6C alkyl). The surface-treated filler is blended with a mixture consisting of a liquid epoxy resin (A), an acid anhydride (B) such as methyltetrahydrophthalic anhydride, and a silane coupling agent (C) of formula I (wherein Y is a monovalent org. group having an oxirane ring; R2 is a 1~5C alkyl) in weight ratios of E/A of 1~6, D/C of 0.3~10, and C+D/E of 0.15~2.0/100.

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